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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/440,535	11/16/1999	TAMAKI KOBAYASHI	35.C14023	3083

5514 7590 02/14/2002

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EXAMINER

PATEL, ASHOK

ART UNIT	PAPER NUMBER
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2879
DATE MAILED: 02/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Claims treated on merits: - 1-5; 10-22

Office Action Summary

Application No.

09/440,535

Applicant(s)

KOBAYASHI ET AL.

Examiner

Ashok Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) 6-9 and 23-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 10-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5,6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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1. Applicant's election with traverse of Group 1, species I, claims 2-5, and 10-22 in Paper No. 10 is acknowledged. The traversal is on the ground(s) that: (1) species I and II should be subjected to election requirement, and (2) office action does not clearly state why these species are different. This is not found persuasive because: (1) the two species are distinct from each other in structure. In one species, the claimed first layer is formed on the substrate and the claimed second layer is formed on the first substrate, whereas in the second species, it is opposite or different (i.e. the claimed second layer is formed on the substrate and the claimed first substrate is formed on the second layer. Thus there are two separate or distinct species. (2) It is further clear and self-evident from context of claims 2 and 6 that structures of these two species are separate from each other. The requirement is still deemed proper and is therefore made FINAL. Claims 6-9 and 10-22 (that depend upon claims 2-6) are withdrawn from consideration. An action on merits including claims 2-5 and 10-22 (that depend upon claims 1-5) is as follows.

2. Claims 1-5 and (10-22)/1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to

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particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "substrate" in the preamble and at line 4 raises a question as to whether these two substrates are same or are different from each other. Applicant is proposed to insert the term "structure" after "substrate" at line 1. Preambles of dependent claims should also be amended accordingly.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

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4. Claims 1, 2, (10-13)/(1 & 2) and (14-22)/(11-13)/(1 & 2) are rejected under 35 U.S.C. 102(a or b or e -depending upon effective filing date-) as being clearly anticipated by Nishimura et al (EP '892, of record).

Nishimura et al disclose applicant's claimed image forming device (Figures 1, 5, 8-12, 16; page 3, lines 21-26; page 5, lines 39-43) including an electron source (as shown in Figure 1B), the electron source further including: a sodium containing substrate (1), an SiO₂ first layer (2), a second layer containing electron conductive oxide (4), and a pair of electrodes (2, 3) formed on the substrate.

Consequently, Nishimura et al anticipate applicant's claims 1, 2, (10-13)/(1 & 2) and (14-22)/(11-13)/(1 & 2).

5. Claims 1, 2, (10-13)/(1 & 2) and (14-22)/(11-13)/(1 & 2) are rejected under 35 U.S.C. 102 (a or b or e -depending upon effective filing date-) as being clearly anticipated by Miyamoto et al (EP '931, of record).

In Figures 21b, 9, 9, 10, 16 etc., Miyamoto et al disclose applicant's claimed image forming device including: an electron source includes a sodium containing substrate (1), an SiO₂ layer (6) and an electron conductive oxide layer (2, 3) or layer 4).

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Consequently, Miyamoto et al anticipate applicant's claims 1, 2, (10-13)/(1 & 2) and (14-22)/(11-13)/(1 & 2).

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

a. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al (or Miyamoto et al, applied individually), as above.

Although Nishimura et al do not disclose the second layer including SiO₂ or the first layer of the substrate (the substrate structure) including P or B or Ge, providing such elements would have been obvious to one of ordinary skill in the art for optimizing properties of the substrate structure depending upon the application of the substrate structure such as an electron

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source or a simple base support structure or a spacer etc..
Alternatively, depending upon certain application of the substrate structure, e.g. as a spacer or as a simple base support, providing including P or B or Ge, is not required or would have been a matter of obvious design choice since inclusion of such elements is unnecessary.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shibata et al is cited for showing a general structure of an electron-emitting device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ashok Patel whose telephone number is 703-305-4934. The examiner can normally be reached on Monday-Thursday.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on 703-305-4794. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7382 for regular communications and 703-308-7382 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4900.


Ashok Patel
Primary Examiner
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